

What is claimed is:

1. An electromechanical driver, flexible shaft, and surgical attachment assembly,  
comprising:
  - a) a flexible shaft including a flexible sheath having a first end and a second end,  
and having disposed therein at least one flexible torque translating member and  
at least one electrical connection wire;
  - b) said at least one flexible torque translating member being coupleable to a surgical  
attachment at said first end of said sheath, and to a driver element at said second  
end;
  - c) said surgical attachment including
    - i) at least one selectively moveable element, said moveable element being  
coupled to said torque translating member such that said moveable element  
may be selectively moved in correspondence with the provision of a torque  
along said torque translating member,
    - ii) at least one selectively activateable sensor mechanism for sensing and  
providing data concerning at least one feature of the environment  
surrounding said attachment when selectively activated by an activating  
signal,
    - iii) said attachment further including at least one transmitter and receiver  
mechanism coupled to the sensor mechanism and the at least one electrical  
connection wire for receiving said activating signal, and transmitting said  
sensor data along said connection wire; and
  - d) said driver element including
    - i) a torque generating mechanism coupled to said torque translating member,  
and
    - ii) a processor element coupled to said at least one electrical connection wire for  
sending an activating signal, receiving said sensor data, analyzing same, and  
controlling the application of said torque by said torque generating  
mechanism in accordance with said analysis.
2. The electromechanical driver assembly as set forth in claim 1, wherein the surgical  
attachment comprises an anastomosing, resecting, and stapling instrument.

3. The electromechanical driver assembly as set forth in claim 1, wherein the activatable sensor comprises a pulse oximeter.
4. The electromechanical driver assembly as set forth in claim 1, wherein the activatable sensor comprises a tissue proximity detector.
- 5 5. The electromechanical driver assembly as set forth in claim 1, wherein the processor element of the driver element is coupled to a display means.
6. A medical tool, comprising:
  - a) an electromechanical driver,
  - b) a sensor assembly capable of sensing and transmitting data regarding at least one  
10 of a feature of the environment surrounding at least a portion of said tool and a feature of the tool,
  - c) a processor element capable of receiving said data and controlling said electromechanical driver in correspondence with said data,
  - d) an application element driven by said electromechanical driver.
- 15 7. The medical tool as set forth in claim 6, wherein said sensor assembly is activated upon, and is capable of, receiving an activation signal transmitted by said processor element.
8. The medical tool as set forth in claim 6, wherein said electromechanical driver comprises a torque generating mechanism and said application element is a  
20 selectively movable element which is in mechanical communication with said torque generating mechanism.
9. The medical tool as set forth in claim 6, wherein at least one of said electromechanical driver, said sensor assembly, said processor element, and said application element is housed in an attachment portion, and the remainder of said  
25 electromechanical driver, said sensor assembly, said processor element, and said application element are housed in a main portion to which said attachment portion can be attached and detached, wherein when said attachment portion is attached to said main portion, said transmission of data, said receipt of data, said control, and said driving is possible.
- 30 10. The medical tool as set forth in claim 9, wherein said electromechanical driver and said processor element are housed in said main portion, and said sensor assembly and said application element are housed in said attachment portion.

11. The medical tool as set forth in claim 6, further comprising an alert element coupled to said processor element and capable of communicating at least one of an aspect of the data received by said processor element and an aspect of the processor element's control of the electromechanical driver.
- 5 12. The medical tool as set forth in claim 6, wherein said sensor assembly comprises a pulse oximeter.
13. The medical tool as set forth in claim 6, wherein said sensor assembly comprises a tissue proximity detector.
- 10 14. The medical tool as set forth in claim 6, wherein, said processor element is capable of preventing activation of said electromechanical driver.